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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,239	11/28/2000	Manabu Ueda	107980	5913
25944	7590	02/17/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			BELL, MELTIN	
			ART UNIT	PAPER NUMBER
			2121	11

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/723,239

Applicant(s)

UEDA ET AL.

Examiner

Meltin Bell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This action is responsive to application **09/723,239** filed 11/28/00 and the solicitation for reconsideration filed 12/30/03.

Currently amended claims 1-37 filed by the applicant have been entered and examined. As presented later in this Office Action, the currently amended claims 1-37 are anticipated by prior art and further rejected for defining non-statutory subject matter.

#### ***Priority***

Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an application for patent filed in the United States may be entitled to the benefit of the filing date of a prior application filed in a foreign country.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file (Japanese priority #s 2000-280252 dated 09/14/2000 and 2000-014107 dated 01/19/2000).

#### ***Information Disclosure Statement***

Applicant is respectfully reminded of the ongoing Duty to disclose 37 C.F.R. 1.56 all pertinent information and material pertaining to the patentability of applicant's claimed invention, by submitting in a timely manner PTO-1449, Information Disclosure Statement (IDS) with the filing of applicant's application or thereafter.

In response to the applicant's arguments stated in the 12/30/03 remarks:

- There is no evidence to support the Okabe et al reference's 7/7/96 date of publication.

It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Drawings***

The United States Patent and Trademark Office of Draftsperson's Patent Drawings Review have reviewed the formal drawings.

The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the drawings.

The reply and proposed drawing corrections filed on 12/30/03 are not fully responsive to the prior Office Action because of the following omission(s) or matter(s):

A)

- Fig. 14 in the substitute specification on page 15, paragraph [0100] is represented as Fig. 14A-B in the drawings.

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- Fig. 19 in the substitute specification on page 23, paragraph [0142] is represented as Fig. 19A-B in the drawings.
- Fig. 20 in the substitute specification on page 25, paragraph [0151] is represented as Fig. 20A-B in the drawings.
- Fig. 21 in the substitute specification on page 25, paragraph [0151] is represented as Fig. 21A-B in the drawings.
- Fig. 22 in the substitute specification on page 25, paragraph [0151] is represented as Fig. 22A-B in the drawings.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

The reply and proposed drawing corrections filed on 12/30/03 are not fully responsive to the prior Office Action because of the following omission(s) or matter(s):

- A.) The last sentence of page seven in the substitute specification referred to on page 21 attempts to correct the last sentence of paragraph three on page 13 of the original specification. However, the 'an' was not inserted before 'appropriate display'.

- B.) The second sentence of paragraph 3 on page 52 of the original specification is the same as the second sentence in paragraph [0173] on page 28.
- C.) The 'beyond fields' phrase still appears throughout the substitute specification from paragraph [0001] on page 1 to paragraph [0195] on page 31.
- D.) 'Print processing' and 'information processing system' are still not shown in Figure 26.
- E.) The following paragraphs should be rewritten or rejoined as one paragraph:
  - a.) [0034-0035] on page 7
  - b.) [0038-0040] on page 8
- F.) FIG. 21's classification file is numbered 235 in the drawing, but 231 on page 25, paragraph [0151], and sentence 2.

See 37 CFR 1.111. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

Currently amended claims 36-37 have been considered, but they are not persuasive.

Currently amended claims 36-37 each need to claim being practiced on a computer and stored in a computer readable medium. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The invention as disclosed in currently amended claims 36-37 are directed to non-statutory subject matter. Currently amended claims 36 and 37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

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Claims 1, 7 and 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As methods, currently amended claims 36 and 37 offer abstract ideas (e.g. “automated”, “background”, “area”, “color”, “contour”, “lines”) that are also not applied in the technological arts. Abstract ideas and their manipulation constitute “descriptive material” that is not patentable, *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759 and *Schrader*, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, respectively. If the abstract ideas of claims 10-14 represented functional descriptive material consisting of data structures and computer programs which impart functionality when run on a computer from a computer readable medium, they become structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. For examples,

- *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) offers claim to data structure stored on a computer readable medium that increases computer efficiency held statutory and
- *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 offers product-by-process claim to computer having a specific data structure stored in memory also held statutory while
- *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 offers claim to a data structure *per se* held nonstatutory.

Because the ideas are not claimed to be practiced on a computer and/or stored on a computer readable medium, they are not limited to practical applications in the

technological arts. Specifically, the claims are systems and methods without any particular practical application, such as a program running on a computer and stored in a computer readable medium or memory. On that basis alone, those claims are clearly nonstatutory.

***Claim Rejections - 35 USC § 102***

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Currently amended claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by *Malone et al* U.S. Patent Number 5,819,270 (October 6, 1998).

**Regarding currently amended claim 26:**

*Malone et. al.* teaches,

- classifying the three components of the activity, the resource, and the dependence relationship according to various classification structures including meaningful abstract and concrete (Is-a) relationship inclusion (Part-of) relationship indicating composition



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(column 2, lines 4-9, "computer representations of objects ... for computer processes..."; Figures 1-24; column 2, lines 41 – 67, "BRIEF DESCRIPTION OF... a subactivity object"; column 3, lines 1 – 35, "FIG. 10 is... of an activity"; column 11, lines 11-15, "A specific activity ... generic activity 181")

- managing cluster relationship proper to each field and the classification structures as attributes of the epistemological ground using each component (column 8, lines 44-55, "Editing functionality of ... for managing dependencies")

### ***Claim Rejections - 35 USC § 103***

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the

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various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Office to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Currently amended claims 1-25 and 27-37 have been considered, but are not persuasive. Currently amended claims 1-25 and 27-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Malone et al* U.S. Patent Number 5,819,270 (October 6, 1998) in view of

- *Orfali et al* "The Essential Distributed Objects Survival Guide" (©1996) in further view of
- *Heichler* USPN 4,757,506 (July 12, 1988) in further view of
- *Nishiya et al* USPN 5,265,222 (November 23, 1993) in further view of
- *Noik* "Challenges in Graph-Based Relational Data Visualization" (November 1992)

and further in view of *Czedo et al* "Semantics of Update Operations For An Extended Entity-Relationship Model" (February 1988).

For currently amended claim limitations not addressed in the prior office action or the above 102(b) rejection of currently amended claim 26, *Malone et al* (USPN 5,819,270 October 6, 1998) teaches,

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- input, database, display, storage, retrieval and edit means as well as means for inputting, analyzing, describing, determining, characterizing, displaying, specifying and assigning (column 8, lines 65-67, "FIG. 7 shows a...computer system 160"; column 9, lines 1-14, "includes a processor...the present invention")

- automated process description, classification, knowledge databases, process retrieval, process analysis, process design, process display as well as automated classification structure display (column 5, lines 52-67, "Alternatives in a...general activity of"; column 6, lines 1-21, "direct mail selling...is greatly enhanced"; column 7, lines 48-56, "This process representation...the process involved"; column 9, lines 24-55, "Other commercially-available tools...a user interface"; column 17, lines 29-44, "One of the...using this approach")

In regards to currently amended claims 1-25 and 27-37, however, *Malone et al* doesn't explicitly teach repeating while *Orfali et al*, teaches,

-repeating in Table 26-1 on page 457

- iterating in Figure 24-10 on page 422

- automation on page 268 ("Scripting and Automation...")

Combining *Orfali et al* with *Malone et al* is motivated by

- Enhanced process representation (*Malone et al*, column 6, lines 38-42, "a process representation...to manage them")
- Ease of use (*Orfali et al*, page 37, paragraph 6, "a component must...use and reuse").

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Therefore, obtaining the invention specified in claims 1-25 and 27-37 with the repeating limitation would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding the characterizing, ER models, and providing a polynomial link of  $n$  to  $m$  in  $R$  recitations in the methods of currently amended claims 1-25 and 27-37, these would have been highly desirable features in this art for

- Optimized processing of simple signal flow as taught by *Heichler* in column 1 on lines 54-56 ("It is an...real time way") when representing activity and dependence relationships with polynomial links (column 3, lines 20-38, "In the code...above-described modulo-2 coupling")
- Maintaining consistency of an expert's control rules with effective rule and feature extraction for characterizing process control systems as taught by *Nishiya et al* in column 3 on lines 27-45 ("the knowledge of...a skilled operator"), in column 1 on lines 41-51 ("As a solution...the operating period") and in column 2 on lines 20-24 ("As an effective...the process control") when representing expanded time-series data with polynomials (FIG. 17; column 10, lines 49-60, "when the time-series...the memory circuit")
- Efficient searching as taught by *Noik* on page 259, section 1, paragraph 4 ("We are given...its hidden features") when ER models describe the conceptual scheme of an enterprise independently of physical database design (page 260,

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section 2.1, paragraph 4, sentence 4-6, "Another well-known data... systems are implemented")

- Satisfying database integrity constraints when users need not be aware of underlying transformations taught by *Czedo et al* on page 185, section 6, sentences 3-10 ("The system may... integrity-preserving update requests") when implicitly versus explicitly specifying identifying expressions through expanded entity and relationship sets (page 184, right column, paragraph 3, "The sub-ECR model...that is required")

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to combine *Malone et al* with *Orfali et al*, *Heichler*, *Nishiya et al*, *Noik* and *Czedo et al* to obtain the recitations specified in currently amended claims 1-25 and 27-37: characterizing, ER models, and providing a polynomial link of  $n$  to  $m$  in  $R$ . The modification would have been obvious because one of ordinary skill in the art would have been motivated to enhance and optimize the characterization, consistency, efficiency, effectiveness and integrity of processing the expanded E-R model as an epistemological ground in an automated process display and/or classification structure.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

*Malone et al* USPN 5,819,270

*Orfali et al* "The Essential Distributed Objects Survival Guide" (©1996)

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*Heichler* USPN 4,757,506

*Nishiya et al* USPN 5,265,222

*Noik* "Challenges in Graph-Based Relational Data Visualization" (November 1992)

*Czedo et al* "Semantics of Update Operations For An Extended Entity-Relationship Model" (February 1988).

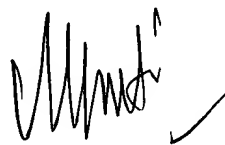
*Liu et al*; Database Schema Evolution Using EVER Diagrams; Proceedings of the Workshop on Advanced Visual Interfaces; June 1994

Any inquiry concerning this communication or earlier communications from the Office should be directed to Meltin Bell whose telephone number is 703-305-0362. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:30 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, Anil Khatri, can be reached on 703-305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

MB / *m.u.*



**ANIL KHATRI**  
**SUPERVISORY PATENT EXAMINER**